



**General Electric Energy Management  
Digital Energy**

## **RCRA Facility Investigation Report**

### **Rio Piedras, Puerto Rico**

Caribe General Electric Products, Inc.

September 2012



A handwritten signature in blue ink, appearing to read "Jason Brien".

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Jason Brien, P.E.  
Principal Engineer

A handwritten signature in blue ink, appearing to read "Robert J. Anderson".

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Robert Anderson  
Principal-in-Charge

**RCRA Facility Investigation  
Report**

Rio Piedras, Puerto Rico

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## Table of Contents

<b>1. Introduction</b>	<b>1</b>
1.1 Overview and Objectives	1
1.2 Report Organization	2
<b>2. Background and Data Needs</b>	<b>3</b>
2.1 Site Layout, Setting, and Description	3
2.2 Site History and Operation	3
2.3 Geology and Hydrogeology	4
2.4 Regulatory History	5
2.5 Solid Waste Management Units and Areas of Concern	6
2.5.1 SWMU Requiring No Further Action	6
2.5.2 AOC Requiring Verification Investigation	6
2.5.3 Data Needs for the RFI	7
<b>3. RFI Activities</b>	<b>8</b>
3.1 Soil Investigation	8
3.1.1 Boring Locations and Methods	8
3.1.2 Soil Sampling and Analysis	8
3.2 Data Validation	9
<b>4. RFI Results</b>	<b>10</b>
4.1 Soil Quality	10
4.1.1 Results	10
4.2 Decontamination and Investigation Derived Waste Management	10
<b>5. Conclusions</b>	<b>11</b>
<b>6. References</b>	<b>12</b>

## Table of Contents

### Tables

- |   |  |
|---|--|
| 1 | Sample Summary                                   |
| 2 | Soil Analytical Summary                          |
| 3 | Soilid Waste Characterization Analytical Summary |

### Figures

- |   |                       |
|---|-----------------------|
| 1 | Site Location Map     |
| 2 | Soil Boring Locations |

### Appendices

- |   |  |
|---|--|
| A | Soil Boring Logs                                   |
| B | Data Usability Summary Report                      |
| C | Laboratory Data Packages (provided electronically) |

## **1. Introduction**

This Resource Conservation and Recovery Act (RCRA) Facility Investigation Report (RFI Report) has been prepared by ARCADIS of New York, Inc. (ARCADIS) on behalf of General Electric Energy Management – Digital Energy (GE) for the former Caribe General Electric Products, Inc. facility located in Rio Piedras, Puerto Rico (the Site). RCRA Facility Investigation (RFI) activities were conducted in response to a July 12, 2010 notification letter from the United States Environmental Protection Agency (USEPA) to GE. The USEPA letter requested preparation of an RFI Work Plan to characterize an area of concern (AOC) identified in the November 1989 RCRA Facility Assessment Report (RFA Report [Puerto Rico Environmental Quality Board (EQB), 1989]). GE submitted a DRAFT RFI Work Plan to USEPA in August 2011 (ARCADIS, 2011), which was approved via an October 12, 2011 letter from USEPA. ARCADIS subsequently conducted RFI activities in March 2012.

### **1.1 Overview and Objectives**

The RFA identified one solid waste management unit (SWMU) and one AOC at the Site.

- SWMU #1 – Hazardous Waste Storage Area
- AOC #1 – Paint Room

Based on the findings and recommendations presented in the RFA Report, AOC #1 – Paint Room (as depicted on Figure 2) was the only area recommended for further investigation as part of the RFI.

The objective of the RFI was to determine whether there have been releases of Site-related hazardous constituents or if such constituents are present in environmental media at concentrations greater than applicable screening levels.

USEPA and EQB determined in the RFA that SWMU #1 did not present the potential for releases of hazardous constituents, and therefore no investigation or further action is required within SWMU #1.

This RFI Report presents a summary of the investigation activities, means and methods to assess the absence or presence of hazardous constituents in environmental media at concentrations above appropriate screening levels in the AOC identified above.

## 1.2 Report Organization

This RFI Report has been organized into the sections described in the following table.

**Table 1-1 RFI Report Organization**

Section	Description
Section 1 – Introduction	Provides background information relevant to the development of this RFI Report.
Section 2 – Background and Data Needs	Presents the rationale for the RFI activities.
Section 3 – RFI Activities	Presents the means and methods involved in the RFI activities.
Section 4 – RFI Results	Presents the results of the RFI activities.
Section 5 – Conclusions	Presents the summary and conclusions of the RFI results.
Section 6 – References	Provides a list of references used to prepare this RFI Work Plan.

Additionally, this RFI Report is supported by following appendices:

**Table 1-2. RFI Work Plan Appendices**

Appendix	Description
Appendix A – Soil Borings Logs	Presents soil borings from RFI activities.
Appendix B – Validated Analytical Data Certification Page	Provides Puerto Rico-certified cover pages for validation of analytical data.
Appendix C – Laboratory Data Packages	Presents laboratory analytical data on CD.

## **2. Background and Data Needs**

This section presents Site background information relevant to the implementation of the RFI Activities. A description of the Site location and setting, regional geology and hydrogeology, and the Site history and operations is presented below.

### **2.1 Site Layout, Setting, and Description**

The Site is located in an industrial area of Rio Piedras on the northeastern coast of Puerto Rico (See Figure 1). The Site covers approximately four acres in a relatively low lying terrain. The site is bordered to the north by Max Chemicals, to the south by Caribbean Signs, to the east by the Puerto Rico Electric Power Authority's San Juan regional offices, and to the west by CII-5. A depiction of the Site layout and the surrounding area is included on Figure 2. The area surrounding the Site is zoned as industrial and commercial.

The regional climate is generally subtropical with high humidity. The average annual temperature for the region is approximately 80° F, with slightly cooler temperatures in the winter. The average annual precipitation is 54.6 inches with the majority of rainfall occurring during April through September.

### **2.2 Site History and Operation**

The facility was originally used for manufacturing fuses and other electrical accessories including current limiting fuses, home lighting protectors, fuse links, radio energy management systems, watt hour meters, and electrical relays. Manufacturing operations began in March 1966 within Building 1. A second building (Building 2) was added to the manufacturing operations in August 1969. Building 2 was reportedly used for storage of finished products manufactured from other GE plants and the manufacturing of plastic parts for electrical accessories.

Building 1 was sold to General Electric of Caribe in 1986. The building was subsequently sold to Puerto Rico Industrial Development Company (PRIDCo) sometime between 1986 and 1999. PRIDCo then sold Building 1 to Active Salesman Company in 1999. PRIDCo currently owns (i.e., as of 2012) Building 2.

The Site is currently used for general storage, warehousing, and process activities involved with the fabrication of metal signage. Active Salesman Company utilizes Building 1 for administrative activities and storage of packing materials and paper

products (e.g., take-out containers, paper towels, napkins, etc.) as observed during Site reconnaissance activities. Products stored in Building 1 supply local restaurants and event planning companies. As of 2012, Building 2 was being used to produce signage and is operated by Caribbean Signs. No further information regarding Building 2 was obtained during Site reconnaissance activities due to inaccessibility. The two buildings are no longer connected to one another.

Prior to 1985, Site-generated waste from the GE manufacturing and painting processes included 1,1,1-trichloroethylene, alcohol flux, a corrosive solution from bright dip process, flux oil, lead scrap, polybutadiene resin, sludge from phosphatizing process, sodium hydroxide, spent cresylic acid, spent oil, waste oxidizer, waste paint, and wastewaters from electroplating processes.

### **2.3 Geology and Hydrogeology**

The site is situated on the northern coastal plain in a relatively flat industrial/urban area of Rio Piedras with an elevation between 20 and 40 feet above mean sea level (amsl). The nearest surface water body is Laguna San Jose, located approximately 2 kilometers north of the Site immediately followed by the Atlantic Ocean north of Laguna San Jose. Groundwater flow direction at the Site is assumed to be north towards Laguna San Jose and the Atlantic Ocean.

Regional geology of the area is characterized by an alluvial deposits formation. The alluvium consists of silty and sandy clay and is mainly red or mottled red-light gray in color. The thickness of the unit is estimated to be greater than 100 meters. The overburden soils are anticipated to be underlain by limestone (Ciboa Formation) above a thin layer of Mucarabones Sandstone (less than 10 meters thick). The overlying Ciboa Formation in the vicinity of Rio Piedras is described as a sandy packstone and grainstone with thinner interbeds of clay and sand. The Mucarabones Sandstone ultimately lies on top of weathered basalt which appears to be a paleohigh in the basement rock (Scharlach, 1990).

No information regarding intrusive investigations at the Site or within the surrounding region was presented in the RFA Report. Further, GE Energy has no information concerning the hydrogeology at the site, having sold the site approximately 12 years ago. Hydraulic conductivity of the Ciboa Formation is anticipated to be between 0.3 and 3.0 meters per day (Giusti and Bennett, 1976). The depth to groundwater beneath the Site is unknown.



## **2.4 Regulatory History**

Regulatory history relevant to the storage and disposal of hazardous material at the Site is presented below. A more detailed history of regulatory involvement was included in the RFA Report.

- August 18, 1980 – GE submits Notification of Hazardous Wastes Activity to USEPA and identifies the Site as a Generator and Treatment, Storage and Disposal (TSD) facility.
- November 19, 1980 – GE submits Part A Permit Application to USEPA for Building 1 storage of the following hazardous wastes: D001, D002, D008, F001, F004, K054, P104, P098, and U133. Building 2 stored the following hazardous wastes: D001, D002, K054, and U133.
- September 8, 1984 – Approximately 20 to 25 gallons of cresylic acid is spilled within the Paint Room (AOC #1) of Building 1. The spill is contained within the building and spill waste is managed using absorbent pads. Waste is containerized within 55-gallon drums. A spill report was not included in the RFA Report.
- November 29, 1984 – GE applies for and receives approval from the EQB to reclassify the Site as a non-handler of hazardous waste facility.
- October 20, 1985 – GE submits a Closure Plan for the Hazardous Wastes Storage Area (SWMU #1) located in Building 2.
- December 24, 1986 – GE submits a revised Closure Plan for SWMU #1 located in Building 2 to the USEPA.
- December 31, 1986 – GE submits a revised Closure Plan for SWMU #1 located in Building 2 to the USEPA.
- September 11, 1987 – GE submits a revised Part A Permit Application to USEPA.
- September 15, 1987 – GE submits a revised Closure Plan for SWMU #1 located in Building 2 to the USEPA.
- January 16, 1988 – GE issues a Public Notice stating closure of SWMU #1.

- July through August, 1988 – GE completes closure activities of SWMU #1.
- September 30, 1988 – GE submits a certification of completion of closure for SWMU #1 to USEPA.
- July 6, 1989 – Visual Site inspection is performed by EQB.
- September 13, 1989 – A second visual Site inspection is performed by EQB.
- November 14, 1989 – EQB submits the RCRA Facility Assessment Report to USEPA.
- July 12, 2010 – GE receives a notification letter from the USEPA requesting that GE perform an RFI.
- March 22 through 23, 2012 – ARCADIS conducts RFI Investigation activities. Details related to RFI field activities and results are included within this RFI Report.

## **2.5 Solid Waste Management Units and Areas of Concern**

This subsection describes the SWMUs and AOC identified by EQB during a March 8, 1988 visual Site inspection as part of the RFA.

### **2.5.1 SWMU Requiring No Further Action**

The Site's hazardous waste storage area was identified as SWMU #1; however, based on the findings of the RFA, no further action was recommended for this area.

### **2.5.2 AOC Requiring Verification Investigation**

RFI activities were conducted to address AOC #1 based on the findings of the RFA. AOC #1 consists of an enclosed, concrete floored room that was originally utilized for painting steel enclosures for electrical relays. AOC #1 is located in the northeast corner of Building 1 and served as storage for raw paint thinner and cresylic acid during plant operations. Approximately 20 to 25 gallons of cresylic acid was spilled within the area due to a rupture in a degreaser tank in September 1984. Per the RFA, the spill was contained within the confines of the building. The spill was cleaned using absorbent pads and materials, which were disposed of in accordance with appropriate protocols.



#### 2.5.3 Data Needs for the RFI

Based on the findings and recommendations presented in the RFA Report, AOC #1, as depicted on Figure 2, was recommended for further investigation as part of the RFI:

EQB and USEPA recommended in the RFA and a June 12, 2010 letter to GE, respectively, that soil investigation activities be conducted to determine if a release to soil had occurred in the location of AOC #1.

### **3. RFI Activities**

RFI activities consisted of installing two soil borings to facilitate soil characterization and sample collection. Descriptions of the RFI soil activities are presented below.

#### **3.1 Soil Investigation**

ARCADIS conducted soil investigation activities over two days from March 22 to March 23, 2012. Air monitoring was conducted during sampling activities in accordance with the project-specific Health and Safety Plan (HASP) and Field Sampling Plan (FSP) included with the RFI Work Plan (ARCADIS, 2011).

##### **3.1.1 Boring Locations and Methods**

Prior to soil boring installation, Site utilities were cleared by ARCADIS' subcontractor GeoEnviroTech, Inc (GET). GET used handheld power tools to core through impervious materials (e.g., concrete, asphalt) at the ground surface. Soil boring locations are shown on Figure 2.

Once impervious surfaces were cored, ARCADIS drilled two soil borings (SB-1 and SB-2) to a depth of approximately 6 feet below ground surface (bgs) utilizing a bucket auger.

Soil samples were collected continuously at each boring location from the ground surface to the depth of completion using a bucket auger. An ARCADIS geologist measured and recorded the length of the representative samples recovered from each depth interval and visually characterized each soil sample for soil type and the presence of visual staining, sheen, and odors. Each sample was containerized and labeled with appropriate identification information (e.g., date, depth interval, etc.).

After completing each boring, boreholes were backfilled with cement/bentonite grout and equipment was decontaminated in accordance with the FSP.

##### **3.1.2 Soil Sampling and Analysis**

Soil samples were collected from depth intervals of 0 to 1 foot, 1 to 2 feet and 2 to 4 feet bgs at each boring location and submitted to TestAmerica located in Amherst, NY for laboratory analysis for the following parameters:



- 2-methylphenol
- 3-methylphenol
- 4-methylphenol

An additional sample collected from the 4- to 6-foot depth interval at each boring was submitted and archived for potential analysis based on the results of the samples collected from the overlying depth intervals. Neither of the archived samples were released for analysis. A soil analytical sample summary is presented in Table 1.

### **3.2 Data Validation**

Analytical data validation was provided by TestAmerica, Inc. of Puerto Rico. Lab report cover pages have been stamped and signed by a licensed Puerto Rico-data validator and are included as Attachment B. As indicated on the validated laboratory report cover sheet, the test results have been certified to meet all 2003 National Environmental Laboratory Accreditation Conference (NELAC) and 2009 The NELAC Institute (TNI) requirements for accredited parameters.

## **4. RFI Results**

This section presents the results of the RFI activities. Soil results were compared to USEPA Region 2 Industrial Regional Screening Levels (RSLs).

### **4.1 Soil Quality**

Soil borings were completed at the locations shown on Figure 2. Soil boring logs are included as Attachment A.

Results obtained from the laboratory analysis of the soil samples collected during the RFI activities are presented in Table 2.

#### **4.1.1 Results**

Methylphenols (2-methylphenol, 3-methylphenol, and 4-methylphenol) were not detected at concentrations greater than the laboratory quantitation limit in any of the RFI soil samples.

### **4.2 Decontamination and Investigation Derived Waste Management**

Investigation-derived waste (IDW) (e.g., soil cuttings, decontamination water, personal protective equipment [PPE]) was drummed and staged on-site in a GE-approved location. Drums were labeled with non-hazardous labels describing the drum contents, as well as start and end accumulation dates. A composite soil waste characterization sample was collected and submitted to TestAmerica for analysis for toxicity characteristic leaching procedure (TCLP) VOCs, semi-volatile organic compounds (SVOCs), metals, polychlorinated-biphenyls (PCBs), ignitability, reactivity and corrosivity. A soil waste characterization summary is included as Table 3.

## **5. Conclusions**

Based on the results of the RFI, AOC #1 has been adequately characterized. Conclusions based on the results of the RFI are as follows:

- Cresylic acid compounds (i.e., 2-methylphenol, 3-methylphenol, and 4-methylphenol) were not detected in any of the soil samples.

Based on the findings of the investigation, there has been no release of cresylic acid components; therefore no further action is necessary for the Site.

## **6. References**

ARCADIS, 2011. *RCRA Facility Investigation Work Plan – Caribe General Electric Products, Inc. – Rio Piedras, Puerto Rico.*

Environmental Quality Board Land Pollution Control Area, 1989. *RCRA Facility Assessment Report – Caribe General Electric Products, Inc. – Rio Piedras, Puerto Rico.*

United States Environmental Protection Agency, 2005. *Uniform Federal Policy for Quality Assurance Project Plans.*

United States Environmental Protection Agency, 2010. *Regional Screening Levels for Chemical Constituents at Superfund Sites.*



## Tables

**Table 1**  
**Sample Summary**

**General Electric Energy Management - Digital Energy - Rio Piedras, Puerto Rico**

			2-Methylphenol (SW-846 8270)	3-Methylphenol (SW-846 8270)	4-Methylphenol (SW-846 8270)
Location	Depth	Date			
<b>Soil Samples</b>					
SB-1	0 - 1	3/23/2012	x	x	x
	1 - 2	3/23/2012	x	x	x
	2 - 4	3/23/2012	x	x	x
	4 - 6	3/23/2012	Archived		
SB-2	0 - 1	3/23/2012	x	x	x
	1 - 2	3/23/2012	x	x	x
	4 - 6	3/23/2012			
	2 - 4	3/23/2012	Archived		

**Notes:**

1. Samples collected by ARCADIS on the dates indicated.
2. Samples analyzed by TestAmerica located in Amherst, New York.
3. Neither of the archived samples were released for analysis based on the results obtained for the overlying depth intervals.

**Table 2**  
**Soil Analytical Summary**

**General Electric Energy Management - Digital Energy - Rio Piedras, Puerto Rico**

<b>Location ID:</b>	<b>Regional Screening Level</b>	<b>Units</b>	<b>SB-1 0 - 1 03/23/12</b>	<b>SB-1 1 - 2 03/23/12</b>	<b>SB-1 2 - 4 03/23/12</b>	<b>SB-2 0 - 1 03/23/12</b>	<b>SB-2 1 - 2 03/23/12</b>	<b>SB-2 2 - 4 03/23/12</b>
<b>Semivolatile Organics</b>								
2-Methylphenol	31,000	mg/kg	0.0064 U	0.0064 U [0.0064 U]	0.0065 U	0.0065 U	0.0068 U	0.0066 U
3-Methylphenol	- -	mg/kg	0.012 U	0.012 U [0.012 U]	0.012 U	0.012 U	0.012 U	0.012 U
4-Methylphenol	- -	mg/kg	0.012 U	0.012 U [0.012 U]	0.012 U	0.012 U	0.012 U	0.012 U

**Notes:**

1. Samples collected by ARCADIS on the dates indicated.
2. Samples analyzed by TestAmerica located in Amherst, New York.
3. Concentrations reported in milligrams per kilogram (mg/kg) which is equivalent to parts per million (ppm).
4. U - Indicates that the compound was analyzed for but not detected. The associated value is the compound quantitation limit.

**Table 3**  
**Solid Waste Characterization Analytical Summary**

**General Electric Energy Management - Digital Energy - Rio Piedras, Puerto Rico**

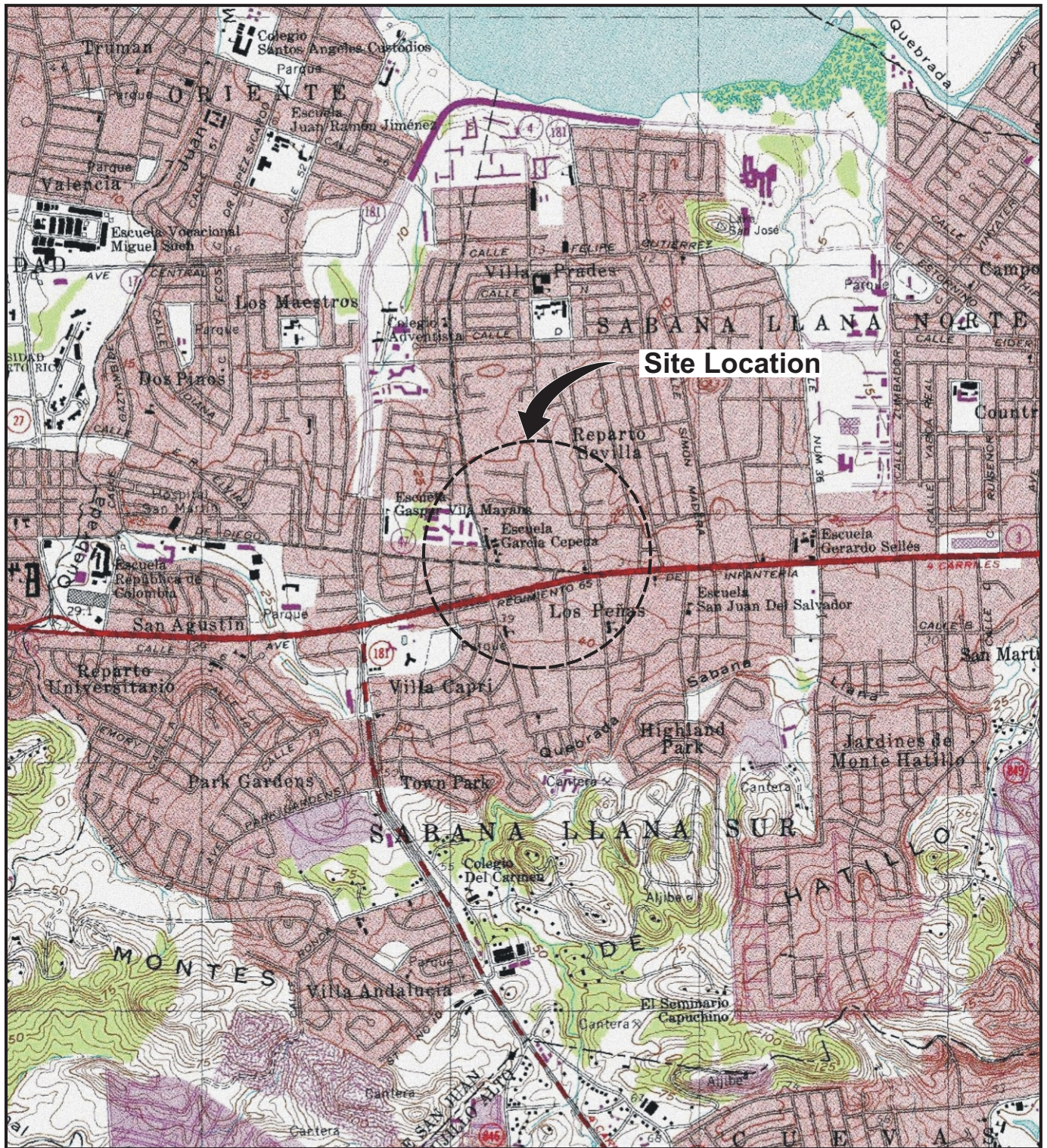
Location ID: Date Collected:	TCLP Criteria	Units	WC 03/23/12
<b>PCBs</b>			
Aroclor-1016	--	ug/kg	46 U
Aroclor-1221	--	ug/kg	46 U
Aroclor-1232	--	ug/kg	46 U
Aroclor-1242	--	ug/kg	51 U
Aroclor-1248	--	ug/kg	46 U
Aroclor-1254	--	ug/kg	50 U
Aroclor-1260	--	ug/kg	110 U
<b>Volatile Organics</b>			
1,1-Dichloroethene	0.7	mg/L	0.0029 U
1,2-Dichloroethane	0.5	mg/L	0.0021 U
2-Butanone	200	mg/L	0.013 U
Benzene	0.5	mg/L	0.0041 U
Carbon Tetrachloride	0.5	mg/L	0.0027 U
Chlorobenzene	100	mg/L	0.0075 U
Chloroform	6	mg/L	0.0034 U
Tetrachloroethene	0.7	mg/L	0.0036 U
Trichloroethene	0.5	mg/L	0.0046 U
Vinyl Chloride	0.2	mg/L	0.009 U
<b>Semivolatile Organics</b>			
1,4-Dichlorobenzene	7.5	mg/L	0.00046 U
2,4,5-Trichlorophenol	400	mg/L	0.00048 U
2,4,6-Trichlorophenol	2	mg/L	0.00061 U
2,4-Dinitrotoluene	30.13	mg/L	0.00045 U
2-Methylphenol	4,200	mg/L	0.0004 U
3-Methylphenol	4,200	mg/L	0.0004 U
4-Methylphenol	4,200	mg/L	0.00036 U
Hexachlorobenzene	30.13	mg/L	0.00051 U
Hexachlorobutadiene	0.5	mg/L	0.00068 U
Hexachloroethane	3	mg/L	0.00059 U
Nitrobenzene	2	mg/L	0.00029 U
Pentachlorophenol	100	mg/L	0.0022 U
Pyridine	35	mg/L	0.00041 U
<b>Inorganics</b>			
Arsenic	5	mg/L	0.025
Barium	100	mg/L	3.9 B
Cadmium	1	mg/L	0.0027
Chromium	5	mg/L	0.074 B
Lead	5	mg/L	0.065
Mercury	0.2	mg/L	0.0002
Selenium	1	mg/L	0.0087 U
Silver	5	mg/L	0.002 J
<b>Miscellaneous</b>			
Cyanide, Reactive	--	mg/kg	
Flashpoint	--	°F	>176
pH	--	SU	6.8
Sulfide, Reactive	--	mg/kg	0.57 U
<b>Solids</b>			
Percent Moisture	--	%	23
Percent Solids	--	%	77

**Notes:**

1. Samples collected by ARCADIS on the dates indicated.
2. Samples analyzed by TestAmerica located in Amherst, New York.
3. U - Indicates that the compound was analyzed for but not detected.  
The associated value is the compound quantitation limit.
4. J - Indicates an estimated value.
5. B - Indicates an estimated value between the instrument detection limit and the Reporting Limit (RL).

## Figures





REFERENCE: BASE MAP USGS 7.5 MIN. QUAD., RIO PIEDRAS, PUERTO RICO.



GENERAL ELECTRIC SERVICES - INDUSTRIAL SOLUTIONS  
RIO PIEDRAS, PUERTO RICO  
**RFI REPORT**

## SITE LOCATION MAP

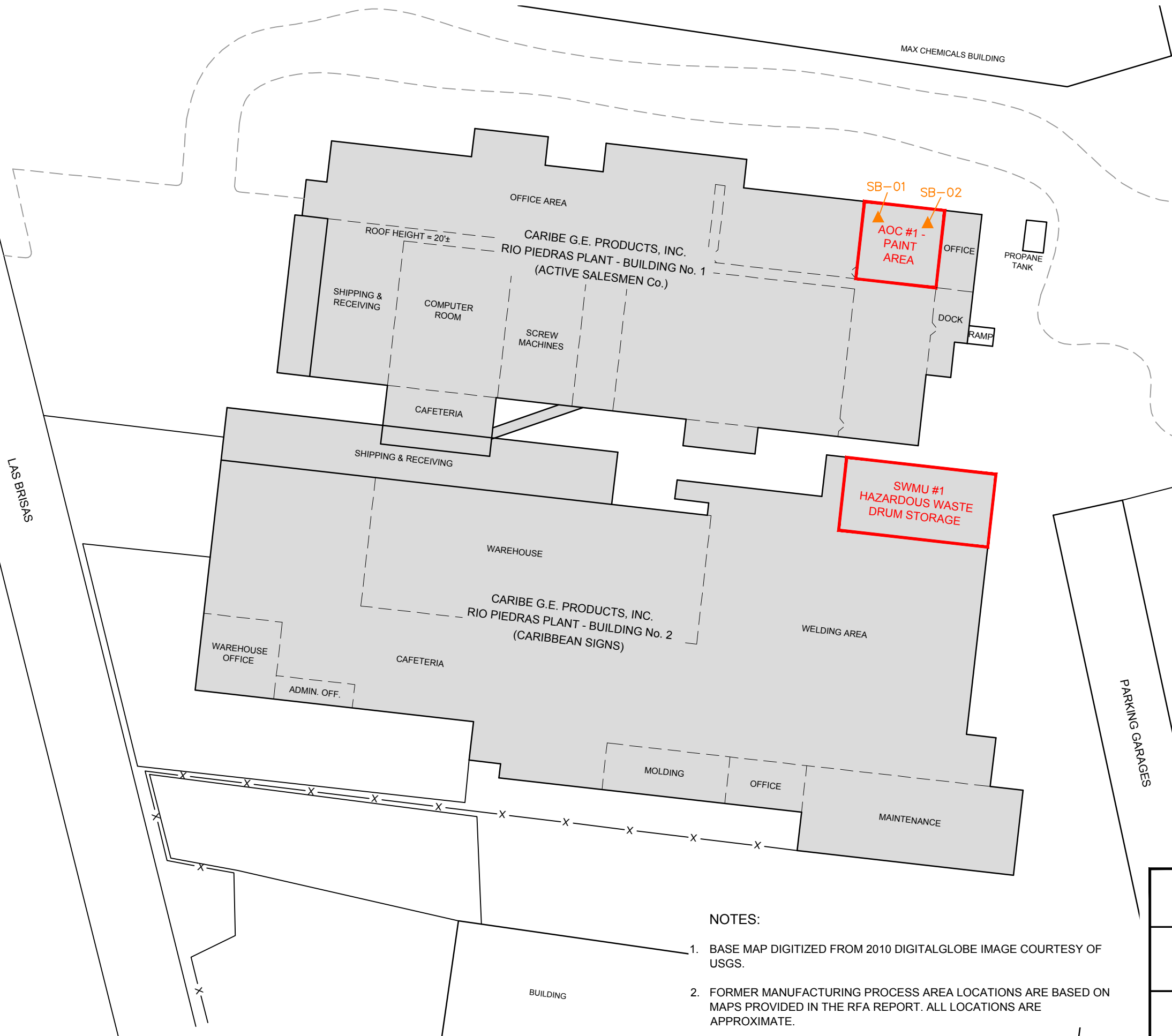


FIGURE  
**1**



PUERTO RICO ELECTRIC  
POWER AUTHORITY -  
SAN JUAN REGIONAL  
OFFICE

LAS BRISAS

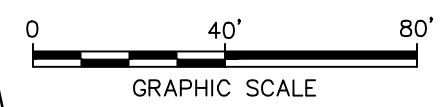


NOTES:

1. BASE MAP DIGITIZED FROM 2010 DIGITALGLOBE IMAGE COURTESY OF USGS.
2. FORMER MANUFACTURING PROCESS AREA LOCATIONS ARE BASED ON MAPS PROVIDED IN THE RFA REPORT. ALL LOCATIONS ARE APPROXIMATE.

LEGEND:

- SB-01 ▲ RFI SOIL BORING LOCATION
- FORMER MANUFACTURING PROCESS AREAS
- SWMU SOLID WASTE MANAGEMENT UNIT
- AOC AREA OF CONCERN



GENERAL ELECTRIC SERVICES - DIGITAL ENERGY  
RIO PIEDRAS, PUERTO RICO  
**RFI REPORT**

**RFI SOIL BORING LOCATIONS**





## **Appendix A**

Soil Boring Logs



**Date Start/Finish:** 3/23/12  
**Drilling Company:** NA  
**Driller's Name:** NA  
**Drilling Method:** Hand Auger  
**Auger Size:** NA  
**Rig Type:** NA  
**Sampling Method:** NA

**Northings:** NA  
**Easting:** NA  
**Casing Elevation:** NA


**Borehole Depth:** 6' bgs  
**Surface Elevation:** NA

**Descriptions By:** Roman Bober

**Well/Boring ID:** **SB-1**

**Client:** General Electric Energy Services- Digital Energy, Rio Piedras, Puerto Rico.

**Location:** Calle La Brisa # 5, Rio Piedras, Puerto Rico.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
-5	-5	1	0-1	NA	NA	NA	0			4" of CONCRETE.	<div><div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div><div>×</div>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**Remarks:** bgs = below ground surface; NA = Not Applicable/Available.  
One sample SB-1-1-2 and its duplicate sample BD032312 was collected at 1-2' bgs (1230).

**Date Start/Finish:** 3/23/12  
**Drilling Company:** NA  
**Driller's Name:** NA  
**Drilling Method:** Hand Auger  
**Auger Size:** NA  
**Rig Type:** NA  
**Sampling Method:** NA

**Northings:** NA  
**Easting:** NA  
**Casing Elevation:** NA

**Borehole Depth:** 6' bgs  
**Surface Elevation:** NA

**Descriptions By:** Roman Bober

**Well/Boring ID:** **SB-2**

**Client:** General Electric Energy Services- Digital Energy, Rio Piedras, Puerto Rico.

**Location:** Calle La Brisa # 5, Rio Piedras, Puerto Rico.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
		1	0-1	NA	NA	NA	0			4" of CONCRETE.	
		2	1-2	NA	NA	NA	0			Strong Brown/Yellowish Brown ROCK FRAGMENTS (10cm diameter), angular, with yellowish brown Clay (GC), dense, moist.	
		3	2-4	NA	NA	NA	0	X			
		4	4-6	NA	NA	NA	0				



**Remarks:** bgs = below ground surface; NA = Not Applicable/Available.  
One sample SB-2-2-4 was collected at 2-4' bgs (1200) for MS/MSD samples.



## **Appendix B**

Data Usability Summary Report

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298

Tel: (716)691-2600

TestAmerica Job ID: 480-17678-1

Client Project/Site: GE Rio Piedras

For:

ARCADIS U.S. Inc

6723 Towpath Road

PO BOX 66

Syracuse, New York 13214

Attn: Mr. Jason Brien

*Melissa Deyo*

Authorized for release by:

4/6/2012 3:06:55 PM

Melissa Deyo

Project Manager I

[melissa.deyo@testamericainc.com](mailto:melissa.deyo@testamericainc.com)

Designee for

Candace Fox

Project Manager II

[candace.fox@testamericainc.com](mailto:candace.fox@testamericainc.com)

### LINKS

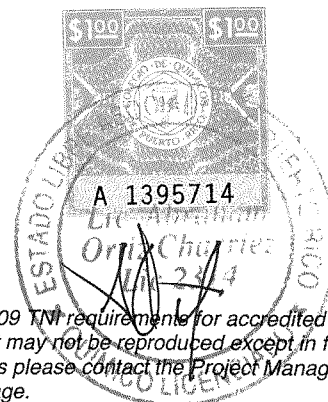
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results through

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Expert**

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



## **Appendix C**

Laboratory Data Packages

(provided electronically)

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298

Tel: (716)691-2600

TestAmerica Job ID: 480-17678-1

Client Project/Site: GE Rio Piedras

For:

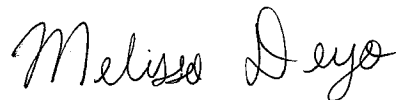
ARCADIS U.S. Inc

6723 Towpath Road

PO BOX 66

Syracuse, New York 13214

Attn: Mr. Jason Brien



Authorized for release by:

4/6/2012 3:06:55 PM

Melissa Deyo

Project Manager I

[melissa.deyo@testamericainc.com](mailto:melissa.deyo@testamericainc.com)

Designee for

Candace Fox

Project Manager II

[candace.fox@testamericainc.com](mailto:candace.fox@testamericainc.com)

### LINKS

Review your project  
results through

TotalAccess

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Definitions/Glossary . . . . .	3
Case Narrative . . . . .	4
Detection Summary . . . . .	5
Client Sample Results . . . . .	6
Surrogate Summary . . . . .	10
QC Sample Results . . . . .	12
QC Association Summary . . . . .	20
Lab Chronicle . . . . .	24
Certification Summary . . . . .	26
Method Summary . . . . .	27
Sample Summary . . . . .	28
Chain of Custody . . . . .	29
Receipt Checklists . . . . .	31



## Definitions/Glossary

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

### Qualifiers

#### GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits
E	Result exceeded calibration range.

#### Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

#### General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



## Case Narrative

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

**Job ID: 480-17678-1**

**Laboratory: TestAmerica Buffalo**

### Narrative

#### Job Narrative 480-17678-1

#### Receipt

All samples were received in good condition within temperature requirements.

#### GC/MS VOA

Method 8260B: The following samples were diluted due to the nature of the TCLP sample matrix: WC 032312S (480-17678-1) and (LB 480-56922/1-A). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

#### GC/MS Semi VOA

Method 8270C: The analytes 3-Methylphenol and 4-Methylphenol co-elute and can not be analytical separated. The reported concentrations for these analytes are a total rather than individual quantitated value. Since these analytes co-elute, only 4-Methylphenol was calibrated for in the calibration data.

Method 8270C: The laboratory control sample (LCS) and the laboratory spike duplicate (LCSD) for preparation batch 57119 exceeded control limits for the following analytes: 2,4-Dinitrotoluene. This analyte was biased high in the LCS/LCSD and was not detected in the associated samples; therefore, the data has been reported.

No analytical or quality issues were noted.

#### GC Semi VOA

Method 8082: All primary data is reported from the ZB-35 column.

Method 8082: The percent difference in a PCB continuing calibration verification is assessed on the basis of the PCB total amount, individual peak calculations are only listed for completeness.

No other analytical or quality issues were noted.

#### Metals

Method 6010B: The TCLP leachate blank (LB 480-56920/1-B) in preparation batch 57043 contained Barium above the reporting limit (RL). The associated sample contained a detection for this analyte at a concentration greater than 10 times the value found in the TCLP leachate blank; therefore, re-extraction and/or re-analysis of sample was not performed.

Method 6010B: The TCLP leachate blank (LB 480-56920/1-B) in preparation batch 57043 contained Chromium above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of sample was not performed.

No other analytical or quality issues were noted.

#### General Chemistry

No analytical or quality issues were noted.

#### Organic Prep

No analytical or quality issues were noted.

## Detection Summary

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

### Client Sample ID: WC 032312S

### Lab Sample ID: 480-17678-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Arsenic	0.025		0.010	0.0056	mg/L		1		6010B	TCLP
Barium	3.9	B	0.0020	0.00070	mg/L		1		6010B	TCLP
Cadmium	0.0027		0.0010	0.00050	mg/L		1		6010B	TCLP
Chromium	0.074	B	0.0040	0.0010	mg/L		1		6010B	TCLP
Lead	0.065		0.0050	0.0030	mg/L		1		6010B	TCLP
Silver	0.0020	J	0.0030	0.0017	mg/L		1		6010B	TCLP
Mercury	0.00020		0.00020	0.00012	mg/L		1		7470A	TCLP
Cyanide, Reactive	8.9	J	10.0	0.0030	mg/Kg		1		9012	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
Flashpoint	>176.0		50.0	50.0	Degrees F		1		1010	Total/NA
pH	6.80		0.100	0.100	SU		1		9045C	Total/NA

### Client Sample ID: SB-2-0-1

### Lab Sample ID: 480-17679-1

No Detections

### Client Sample ID: SB-2-1-2

### Lab Sample ID: 480-17679-2

No Detections

### Client Sample ID: SB-2-2-4

### Lab Sample ID: 480-17679-3

No Detections

### Client Sample ID: SB-1-0-1

### Lab Sample ID: 480-17679-4

No Detections

### Client Sample ID: SB-1-1-2

### Lab Sample ID: 480-17679-5

No Detections

### Client Sample ID: SB-1-2-4

### Lab Sample ID: 480-17679-6

No Detections

### Client Sample ID: BD032312

### Lab Sample ID: 480-17679-7

No Detections

# Client Sample Results

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

**Client Sample ID: WC 032312S**

**Lab Sample ID: 480-17678-1**

**Date Collected: 03/23/12 13:00**

**Matrix: Solid**

**Date Received: 03/24/12 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.010	0.0041	mg/L			03/28/12 21:03	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			03/28/12 21:03	10
Chlorobenzene	ND		0.010	0.0075	mg/L			03/28/12 21:03	10
Chloroform	ND		0.010	0.0034	mg/L			03/28/12 21:03	10
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			03/28/12 21:03	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			03/28/12 21:03	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			03/28/12 21:03	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			03/28/12 21:03	10
Trichloroethene	ND		0.010	0.0046	mg/L			03/28/12 21:03	10
Vinyl chloride	ND		0.010	0.0090	mg/L			03/28/12 21:03	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		66 - 137		03/28/12 21:03	10
Toluene-d8 (Surr)	94		71 - 126		03/28/12 21:03	10
4-Bromofluorobenzene (Surr)	94		73 - 120		03/28/12 21:03	10

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		03/28/12 13:34	03/29/12 16:38	1
2,4-Dinitrotoluene	ND	*	0.0050	0.00045	mg/L		03/28/12 13:34	03/29/12 16:38	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		03/28/12 13:34	03/29/12 16:38	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		03/28/12 13:34	03/29/12 16:38	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		03/28/12 13:34	03/29/12 16:38	1
3-Methylphenol	ND	*	0.010	0.00040	mg/L		03/28/12 13:34	03/29/12 16:38	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		03/28/12 13:34	03/29/12 16:38	1
4-Methylphenol	ND		0.010	0.00036	mg/L		03/28/12 13:34	03/29/12 16:38	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		03/28/12 13:34	03/29/12 16:38	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		03/28/12 13:34	03/29/12 16:38	1
Pyridine	ND		0.025	0.00041	mg/L		03/28/12 13:34	03/29/12 16:38	1
2,4,5-Trichlorophenol	ND	*	0.0050	0.00048	mg/L		03/28/12 13:34	03/29/12 16:38	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		03/28/12 13:34	03/29/12 16:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	126		52 - 132	03/28/12 13:34	03/29/12 16:38	1
2-Fluorobiphenyl	91		48 - 120	03/28/12 13:34	03/29/12 16:38	1
2-Fluorophenol	46		20 - 120	03/28/12 13:34	03/29/12 16:38	1
Nitrobenzene-d5	83		46 - 120	03/28/12 13:34	03/29/12 16:38	1
p-Terphenyl-d14	117		67 - 150	03/28/12 13:34	03/29/12 16:38	1
Phenol-d5	32		16 - 120	03/28/12 13:34	03/29/12 16:38	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		240	46	ug/Kg	✱	03/27/12 11:17	03/27/12 20:13	1
PCB-1221	ND		240	46	ug/Kg	✱	03/27/12 11:17	03/27/12 20:13	1
PCB-1232	ND		240	46	ug/Kg	✱	03/27/12 11:17	03/27/12 20:13	1
PCB-1242	ND		240	51	ug/Kg	✱	03/27/12 11:17	03/27/12 20:13	1
PCB-1248	ND		240	46	ug/Kg	✱	03/27/12 11:17	03/27/12 20:13	1
PCB-1254	ND		240	50	ug/Kg	✱	03/27/12 11:17	03/27/12 20:13	1
PCB-1260	ND		240	110	ug/Kg	✱	03/27/12 11:17	03/27/12 20:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	135		36 - 182	03/27/12 11:17	03/27/12 20:13	1

# Client Sample Results

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

**Client Sample ID: WC 032312S**

**Lab Sample ID: 480-17678-1**

**Date Collected: 03/23/12 13:00**

**Matrix: Solid**

**Date Received: 03/24/12 09:00**

**Percent Solids: 77.0**

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	123		36 - 182	03/27/12 11:17	03/27/12 20:13	1
Tetrachloro-m-xylene	133		24 - 172	03/27/12 11:17	03/27/12 20:13	1
Tetrachloro-m-xylene	119		24 - 172	03/27/12 11:17	03/27/12 20:13	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.025		0.010	0.0056	mg/L		03/28/12 10:10	03/28/12 19:44	1
Barium	3.9	B	0.0020	0.00070	mg/L		03/28/12 10:10	03/28/12 19:44	1
Cadmium	0.0027		0.0010	0.00050	mg/L		03/28/12 10:10	03/28/12 19:44	1
Chromium	0.074	B	0.0040	0.0010	mg/L		03/28/12 10:10	03/28/12 19:44	1
Lead	0.065		0.0050	0.0030	mg/L		03/28/12 10:10	03/28/12 19:44	1
Selenium	ND		0.015	0.0087	mg/L		03/28/12 10:10	03/28/12 19:44	1
Silver	0.0020	J	0.0030	0.0017	mg/L		03/28/12 10:10	03/28/12 19:44	1

## Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020		0.00020	0.00012	mg/L		03/28/12 10:05	03/28/12 12:54	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Reactive	8.9	J	10.0	0.0030	mg/Kg		03/30/12 12:30	03/30/12 17:16	1
Sulfide, Reactive	ND		10.0	0.57	mg/Kg		03/30/12 12:30	03/30/12 14:30	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			03/29/12 11:26	1
pH	6.80		0.100	0.100	SU			03/27/12 18:35	1

**Client Sample ID: SB-2-0-1**

**Lab Sample ID: 480-17679-1**

**Date Collected: 03/23/12 13:20**

**Matrix: Solid**

**Date Received: 03/24/12 09:00**

**Percent Solids: 79.1**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		210	6.5	ug/Kg	☼	03/26/12 14:53	03/28/12 13:34	1
4-Methylphenol	ND		410	12	ug/Kg	☼	03/26/12 14:53	03/28/12 13:34	1
3-Methylphenol	ND	*	410	12	ug/Kg	☼	03/26/12 14:53	03/28/12 13:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	106		39 - 146				03/26/12 14:53	03/28/12 13:34	1
2-Fluorobiphenyl	91		37 - 120				03/26/12 14:53	03/28/12 13:34	1
2-Fluorophenol	65		18 - 120				03/26/12 14:53	03/28/12 13:34	1
Nitrobenzene-d5	73		34 - 132				03/26/12 14:53	03/28/12 13:34	1
p-Terphenyl-d14	124		65 - 153				03/26/12 14:53	03/28/12 13:34	1
Phenol-d5	74		11 - 120				03/26/12 14:53	03/28/12 13:34	1

**Client Sample ID: SB-2-1-2**

**Lab Sample ID: 480-17679-2**

**Date Collected: 03/23/12 13:50**

**Matrix: Solid**

**Date Received: 03/24/12 09:00**

**Percent Solids: 75.4**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		220	6.8	ug/Kg	☼	03/26/12 14:53	03/28/12 13:59	1
4-Methylphenol	ND		430	12	ug/Kg	☼	03/26/12 14:53	03/28/12 13:59	1

# Client Sample Results

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

**Client Sample ID: SB-2-1-2**

**Lab Sample ID: 480-17679-2**

**Date Collected: 03/23/12 13:50**

**Matrix: Solid**

**Date Received: 03/24/12 09:00**

**Percent Solids: 75.4**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Methylphenol	ND	*	430	12	ug/Kg	☼	03/26/12 14:53	03/28/12 13:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	111		39 - 146				03/26/12 14:53	03/28/12 13:59	1
2-Fluorobiphenyl	100		37 - 120				03/26/12 14:53	03/28/12 13:59	1
2-Fluorophenol	75		18 - 120				03/26/12 14:53	03/28/12 13:59	1
Nitrobenzene-d5	82		34 - 132				03/26/12 14:53	03/28/12 13:59	1
p-Terphenyl-d14	125		65 - 153				03/26/12 14:53	03/28/12 13:59	1
Phenol-d5	83		11 - 120				03/26/12 14:53	03/28/12 13:59	1

**Client Sample ID: SB-2-2-4**

**Lab Sample ID: 480-17679-3**

**Date Collected: 03/23/12 08:50**

**Matrix: Solid**

**Date Received: 03/24/12 09:00**

**Percent Solids: 77.7**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		220	6.6	ug/Kg	☼	03/26/12 14:53	03/28/12 14:23	1
4-Methylphenol	ND		420	12	ug/Kg	☼	03/26/12 14:53	03/28/12 14:23	1
3-Methylphenol	ND	*	420	12	ug/Kg	☼	03/26/12 14:53	03/28/12 14:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	102		39 - 146				03/26/12 14:53	03/28/12 14:23	1
2-Fluorobiphenyl	94		37 - 120				03/26/12 14:53	03/28/12 14:23	1
2-Fluorophenol	72		18 - 120				03/26/12 14:53	03/28/12 14:23	1
Nitrobenzene-d5	80		34 - 132				03/26/12 14:53	03/28/12 14:23	1
p-Terphenyl-d14	118		65 - 153				03/26/12 14:53	03/28/12 14:23	1
Phenol-d5	80		11 - 120				03/26/12 14:53	03/28/12 14:23	1

**Client Sample ID: SB-1-0-1**

**Lab Sample ID: 480-17679-4**

**Date Collected: 03/23/12 10:00**

**Matrix: Solid**

**Date Received: 03/24/12 09:00**

**Percent Solids: 79.9**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		210	6.4	ug/Kg	☼	03/26/12 14:53	03/28/12 14:47	1
4-Methylphenol	ND		410	12	ug/Kg	☼	03/26/12 14:53	03/28/12 14:47	1
3-Methylphenol	ND	*	410	12	ug/Kg	☼	03/26/12 14:53	03/28/12 14:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	117		39 - 146				03/26/12 14:53	03/28/12 14:47	1
2-Fluorobiphenyl	99		37 - 120				03/26/12 14:53	03/28/12 14:47	1
2-Fluorophenol	75		18 - 120				03/26/12 14:53	03/28/12 14:47	1
Nitrobenzene-d5	84		34 - 132				03/26/12 14:53	03/28/12 14:47	1
p-Terphenyl-d14	122		65 - 153				03/26/12 14:53	03/28/12 14:47	1
Phenol-d5	83		11 - 120				03/26/12 14:53	03/28/12 14:47	1

# Client Sample Results

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

**Client Sample ID: SB-1-1-2**

**Lab Sample ID: 480-17679-5**

**Date Collected: 03/23/12 10:10**

**Matrix: Solid**

**Date Received: 03/24/12 09:00**

**Percent Solids: 81.1**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		210	6.4	ug/Kg	☼	03/26/12 14:53	03/28/12 15:12	1
4-Methylphenol	ND		410	12	ug/Kg	☼	03/26/12 14:53	03/28/12 15:12	1
3-Methylphenol	ND	*	410	12	ug/Kg	☼	03/26/12 14:53	03/28/12 15:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	107		39 - 146				03/26/12 14:53	03/28/12 15:12	1
2-Fluorobiphenyl	96		37 - 120				03/26/12 14:53	03/28/12 15:12	1
2-Fluorophenol	71		18 - 120				03/26/12 14:53	03/28/12 15:12	1
Nitrobenzene-d5	75		34 - 132				03/26/12 14:53	03/28/12 15:12	1
p-Terphenyl-d14	115		65 - 153				03/26/12 14:53	03/28/12 15:12	1
Phenol-d5	78		11 - 120				03/26/12 14:53	03/28/12 15:12	1

**Client Sample ID: SB-1-2-4**

**Lab Sample ID: 480-17679-6**

**Date Collected: 03/23/12 10:38**

**Matrix: Solid**

**Date Received: 03/24/12 09:00**

**Percent Solids: 78.9**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		210	6.5	ug/Kg	☼	03/26/12 14:53	03/28/12 15:36	1
4-Methylphenol	ND		410	12	ug/Kg	☼	03/26/12 14:53	03/28/12 15:36	1
3-Methylphenol	ND	*	410	12	ug/Kg	☼	03/26/12 14:53	03/28/12 15:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	114		39 - 146				03/26/12 14:53	03/28/12 15:36	1
2-Fluorobiphenyl	93		37 - 120				03/26/12 14:53	03/28/12 15:36	1
2-Fluorophenol	77		18 - 120				03/26/12 14:53	03/28/12 15:36	1
Nitrobenzene-d5	80		34 - 132				03/26/12 14:53	03/28/12 15:36	1
p-Terphenyl-d14	121		65 - 153				03/26/12 14:53	03/28/12 15:36	1
Phenol-d5	80		11 - 120				03/26/12 14:53	03/28/12 15:36	1

**Client Sample ID: BD032312**

**Lab Sample ID: 480-17679-7**

**Date Collected: 03/23/12 12:30**

**Matrix: Solid**

**Date Received: 03/24/12 09:00**

**Percent Solids: 80.4**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		210	6.4	ug/Kg	☼	03/26/12 14:53	03/28/12 16:00	1
4-Methylphenol	ND		410	12	ug/Kg	☼	03/26/12 14:53	03/28/12 16:00	1
3-Methylphenol	ND	*	410	12	ug/Kg	☼	03/26/12 14:53	03/28/12 16:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	104		39 - 146				03/26/12 14:53	03/28/12 16:00	1
2-Fluorobiphenyl	86		37 - 120				03/26/12 14:53	03/28/12 16:00	1
2-Fluorophenol	68		18 - 120				03/26/12 14:53	03/28/12 16:00	1
Nitrobenzene-d5	74		34 - 132				03/26/12 14:53	03/28/12 16:00	1
p-Terphenyl-d14	115		65 - 153				03/26/12 14:53	03/28/12 16:00	1
Phenol-d5	73		11 - 120				03/26/12 14:53	03/28/12 16:00	1

# Surrogate Summary

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)						
		12DCE (66-137)	TOL (71-126)	BFB (73-120)				
LCS 480-57165/5	Lab Control Sample	95	94	94				
MB 480-57165/6	Method Blank	96	94	92				
<b>Surrogate Legend</b>								
12DCE = 1,2-Dichloroethane-d4 (Surr)								
TOL = Toluene-d8 (Surr)								
BFB = 4-Bromofluorobenzene (Surr)								

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)						
		12DCE (66-137)	TOL (71-126)	BFB (73-120)				
480-17678-1	WC 032312S	103	94	94				
LB 480-56922/1-A LB	Method Blank	96	92	91				
<b>Surrogate Legend</b>								
12DCE = 1,2-Dichloroethane-d4 (Surr)								
TOL = Toluene-d8 (Surr)								
BFB = 4-Bromofluorobenzene (Surr)								

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)							
		TBP (39-146)	FBP (37-120)	2FP (18-120)	NBZ (34-132)	TPH (65-153)	PHL (11-120)		
480-17679-1	SB-2-0-1	106	91	65	73	124	74		
480-17679-2	SB-2-1-2	111	100	75	82	125	83		
480-17679-3	SB-2-2-4	102	94	72	80	118	80		
480-17679-3 MS	SB-2-2-4	119	96	83	87	112	88		
480-17679-3 MSD	SB-2-2-4	118	94	81	83	114	84		
480-17679-4	SB-1-0-1	117	99	75	84	122	83		
480-17679-5	SB-1-1-2	107	96	71	75	115	78		
480-17679-6	SB-1-2-4	114	93	77	80	121	80		
480-17679-7	BD032312	104	86	68	74	115	73		
LCS 480-56759/2-A	Lab Control Sample	127	98	86	90	115	88		
MB 480-56759/1-A	Method Blank	113	95	80	82	119	88		
<b>Surrogate Legend</b>									
TBP = 2,4,6-Tribromophenol									
FBP = 2-Fluorobiphenyl									
2FP = 2-Fluorophenol									
NBZ = Nitrobenzene-d5									
TPH = p-Terphenyl-d14									
PHL = Phenol-d5									

## Surrogate Summary

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

### Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (52-132)	FBP (48-120)	2FP (20-120)	NBZ (46-120)	TPH (67-150)	PHL (16-120)
LCS 480-57119/2-A	Lab Control Sample	124	103	52	89	124	37
LCSD 480-57119/3-A	Lab Control Sample Dup	129	99	53	89	120	37
MB 480-57119/1-A	Method Blank	107	81	43	70	121	30

#### Surrogate Legend

TBP = 2,4,6-Tribromophenol  
FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol  
NBZ = Nitrobenzene-d5  
TPH = p-Terphenyl-d14  
PHL = Phenol-d5

### Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (52-132)	FBP (48-120)	2FP (20-120)	NBZ (46-120)	TPH (67-150)	PHL (16-120)
480-17678-1	WC 032312S	126	91	46	83	117	32
LB 480-56920/1-D LB	Method Blank	124	101	48	82	135	34

#### Surrogate Legend

TBP = 2,4,6-Tribromophenol  
FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol  
NBZ = Nitrobenzene-d5  
TPH = p-Terphenyl-d14  
PHL = Phenol-d5

### Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCB1 (36-182)	DCB2 (36-182)	TCX1 (24-172)	TCX2 (24-172)
480-17678-1	WC 032312S	135	123	133	119
LCS 480-56893/2-A	Lab Control Sample	145	140	161	132
LCSD 480-56893/3-A	Lab Control Sample Dup	141	134	157	133
MB 480-56893/1-A	Method Blank	128	127	133	119

#### Surrogate Legend

DCB = DCB Decachlorobiphenyl  
TCX = Tetrachloro-m-xylene



# QC Sample Results

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-57165/6

Matrix: Solid

Analysis Batch: 57165

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0010	0.00041	mg/L			03/28/12 19:57	1
Carbon tetrachloride	ND		0.0010	0.00027	mg/L			03/28/12 19:57	1
Chlorobenzene	ND		0.0010	0.00075	mg/L			03/28/12 19:57	1
Chloroform	ND		0.0010	0.00034	mg/L			03/28/12 19:57	1
1,2-Dichloroethane	ND		0.0010	0.00021	mg/L			03/28/12 19:57	1
1,1-Dichloroethene	ND		0.0010	0.00029	mg/L			03/28/12 19:57	1
2-Butanone (MEK)	ND		0.0050	0.0013	mg/L			03/28/12 19:57	1
Tetrachloroethene	ND		0.0010	0.00036	mg/L			03/28/12 19:57	1
Trichloroethene	ND		0.0010	0.00046	mg/L			03/28/12 19:57	1
Vinyl chloride	ND		0.0010	0.00090	mg/L			03/28/12 19:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		66 - 137		03/28/12 19:57	1
Toluene-d8 (Surr)	94		71 - 126		03/28/12 19:57	1
4-Bromofluorobenzene (Surr)	92		73 - 120		03/28/12 19:57	1

Lab Sample ID: LCS 480-57165/5

Matrix: Solid

Analysis Batch: 57165

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0250	0.0227		mg/L		91	71 - 124
Chlorobenzene	0.0250	0.0240		mg/L		96	72 - 120
1,2-Dichloroethane	0.0250	0.0250		mg/L		100	75 - 127
1,1-Dichloroethene	0.0250	0.0197		mg/L		79	65 - 138
Tetrachloroethene	0.0250	0.0248		mg/L		99	74 - 122
Trichloroethene	0.0250	0.0239		mg/L		96	74 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		66 - 137
Toluene-d8 (Surr)	94		71 - 126
4-Bromofluorobenzene (Surr)	94		73 - 120

Lab Sample ID: LB 480-56922/1-A LB

Matrix: Solid

Analysis Batch: 57165

Client Sample ID: Method Blank

Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.010	0.0041	mg/L			03/28/12 20:38	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			03/28/12 20:38	10
Chlorobenzene	ND		0.010	0.0075	mg/L			03/28/12 20:38	10
Chloroform	ND		0.010	0.0034	mg/L			03/28/12 20:38	10
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			03/28/12 20:38	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			03/28/12 20:38	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			03/28/12 20:38	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			03/28/12 20:38	10
Trichloroethene	ND		0.010	0.0046	mg/L			03/28/12 20:38	10
Vinyl chloride	ND		0.010	0.0090	mg/L			03/28/12 20:38	10

# QC Sample Results

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LB 480-56922/1-A LB  
Matrix: Solid  
Analysis Batch: 57165

Client Sample ID: Method Blank  
Prep Type: TCLP

Surrogate	LB	LB	Limits	Prepared	Analyzed	Dil Fac
%Recovery	Qualifier					
1,2-Dichloroethane-d4 (Surr)	96		66 - 137		03/28/12 20:38	10
Toluene-d8 (Surr)	92		71 - 126		03/28/12 20:38	10
4-Bromofluorobenzene (Surr)	91		73 - 120		03/28/12 20:38	10

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-56759/1-A  
Matrix: Solid  
Analysis Batch: 57034

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 56759

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Result	Qualifier								
2-Methylphenol	ND		170	5.2	ug/Kg		03/26/12 14:53	03/28/12 11:58	1
4-Methylphenol	ND		330	9.4	ug/Kg		03/26/12 14:53	03/28/12 11:58	1
3-Methylphenol	ND		330	9.4	ug/Kg		03/26/12 14:53	03/28/12 11:58	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
%Recovery	Qualifier					
2,4,6-Tribromophenol	113		39 - 146	03/26/12 14:53	03/28/12 11:58	1
2-Fluorobiphenyl	95		37 - 120	03/26/12 14:53	03/28/12 11:58	1
2-Fluorophenol	80		18 - 120	03/26/12 14:53	03/28/12 11:58	1
Nitrobenzene-d5	82		34 - 132	03/26/12 14:53	03/28/12 11:58	1
p-Terphenyl-d14	119		65 - 153	03/26/12 14:53	03/28/12 11:58	1
Phenol-d5	88		11 - 120	03/26/12 14:53	03/28/12 11:58	1

Lab Sample ID: LCS 480-56759/2-A  
Matrix: Solid  
Analysis Batch: 57034

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 56759

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
Added	Result	Qualifier					Limits
2-Methylphenol	3320	3220		ug/Kg		97	48 - 120
4-Methylphenol	6640	6750	E	ug/Kg		102	50 - 119

Surrogate	LCS	LCS	Limits
%Recovery	Qualifier		
2,4,6-Tribromophenol	127		39 - 146
2-Fluorobiphenyl	98		37 - 120
2-Fluorophenol	86		18 - 120
Nitrobenzene-d5	90		34 - 132
p-Terphenyl-d14	115		65 - 153
Phenol-d5	88		11 - 120

Lab Sample ID: 480-17679-3 MS  
Matrix: Solid  
Analysis Batch: 57034

Client Sample ID: SB-2-2-4  
Prep Type: Total/NA  
Prep Batch: 56759

	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
2-Methylphenol	ND		4250	4200		ug/Kg	☼	99	48 - 120		
4-Methylphenol	ND		8490	8820	E	ug/Kg	☼	104	50 - 119		

# QC Sample Results

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 480-17679-3 MS

Matrix: Solid

Analysis Batch: 57034

Client Sample ID: SB-2-2-4

Prep Type: Total/NA

Prep Batch: 56759

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4,6-Tribromophenol	119		39 - 146
2-Fluorobiphenyl	96		37 - 120
2-Fluorophenol	83		18 - 120
Nitrobenzene-d5	87		34 - 132
p-Terphenyl-d14	112		65 - 153
Phenol-d5	88		11 - 120

Lab Sample ID: 480-17679-3 MSD

Matrix: Solid

Analysis Batch: 57034

Client Sample ID: SB-2-2-4

Prep Type: Total/NA

Prep Batch: 56759

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Methylphenol	ND		4260	3860		ug/Kg	☼	91	48 - 120	9	27
4-Methylphenol	ND		8520	8560	E	ug/Kg	☼	100	50 - 119	3	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4,6-Tribromophenol	118		39 - 146
2-Fluorobiphenyl	94		37 - 120
2-Fluorophenol	81		18 - 120
Nitrobenzene-d5	83		34 - 132
p-Terphenyl-d14	114		65 - 153
Phenol-d5	84		11 - 120

Lab Sample ID: MB 480-57119/1-A

Matrix: Solid

Analysis Batch: 57300

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 57119

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.0025	0.00012	mg/L		03/28/12 13:33	03/29/12 15:01	1
2,4-Dinitrotoluene	ND		0.0013	0.00011	mg/L		03/28/12 13:33	03/29/12 15:01	1
Hexachlorobenzene	ND		0.0013	0.00013	mg/L		03/28/12 13:33	03/29/12 15:01	1
Hexachlorobutadiene	ND		0.0013	0.00017	mg/L		03/28/12 13:33	03/29/12 15:01	1
Hexachloroethane	ND		0.0013	0.00015	mg/L		03/28/12 13:33	03/29/12 15:01	1
2-Methylphenol	ND		0.0013	0.00010	mg/L		03/28/12 13:33	03/29/12 15:01	1
Nitrobenzene	ND		0.0013	0.000073	mg/L		03/28/12 13:33	03/29/12 15:01	1
Pentachlorophenol	ND		0.0025	0.00055	mg/L		03/28/12 13:33	03/29/12 15:01	1
Pyridine	ND		0.0063	0.00010	mg/L		03/28/12 13:33	03/29/12 15:01	1
2,4,5-Trichlorophenol	ND		0.0013	0.00012	mg/L		03/28/12 13:33	03/29/12 15:01	1
2,4,6-Trichlorophenol	ND		0.0013	0.00015	mg/L		03/28/12 13:33	03/29/12 15:01	1
4-Methylphenol	ND		0.0025	0.000090	mg/L		03/28/12 13:33	03/29/12 15:01	1
3-Methylphenol	ND		0.0025	0.00010	mg/L		03/28/12 13:33	03/29/12 15:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	107		52 - 132	03/28/12 13:33	03/29/12 15:01	1
2-Fluorobiphenyl	81		48 - 120	03/28/12 13:33	03/29/12 15:01	1
2-Fluorophenol	43		20 - 120	03/28/12 13:33	03/29/12 15:01	1
Nitrobenzene-d5	70		46 - 120	03/28/12 13:33	03/29/12 15:01	1
p-Terphenyl-d14	121		67 - 150	03/28/12 13:33	03/29/12 15:01	1
Phenol-d5	30		16 - 120	03/28/12 13:33	03/29/12 15:01	1

# QC Sample Results

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 480-57119/2-A

Matrix: Solid

Analysis Batch: 57723

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 57119

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	0.100	0.0746		mg/L		75	32 - 120
2,4-Dinitrotoluene	0.100	0.130	*	mg/L		130	59 - 125
Hexachloroethane	0.100	0.0662		mg/L		66	25 - 120
2-Methylphenol	0.100	0.0851		mg/L		85	39 - 120
Pentachlorophenol	0.100	0.114		mg/L		114	39 - 136
4-Methylphenol	0.200	0.166	E	mg/L		83	39 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol	124		52 - 132
2-Fluorobiphenyl	103		48 - 120
2-Fluorophenol	52		20 - 120
Nitrobenzene-d5	89		46 - 120
p-Terphenyl-d14	124		67 - 150
Phenol-d5	37		16 - 120

Lab Sample ID: LCSD 480-57119/3-A

Matrix: Solid

Analysis Batch: 57300

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 57119

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dichlorobenzene	0.100	0.0767		mg/L		77	32 - 120	3	36
2,4-Dinitrotoluene	0.100	0.127	*	mg/L		127	59 - 125	3	20
Hexachloroethane	0.100	0.0723		mg/L		72	25 - 120	9	46
2-Methylphenol	0.100	0.0856		mg/L		86	39 - 120	1	27
Pentachlorophenol	0.100	0.120		mg/L		120	39 - 136	5	37
4-Methylphenol	0.200	0.175	E	mg/L		87	39 - 120	5	24

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol	129		52 - 132
2-Fluorobiphenyl	99		48 - 120
2-Fluorophenol	53		20 - 120
Nitrobenzene-d5	89		46 - 120
p-Terphenyl-d14	120		67 - 150
Phenol-d5	37		16 - 120

Lab Sample ID: LB 480-56920/1-D LB

Matrix: Solid

Analysis Batch: 57723

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 57119

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		03/28/12 13:34	04/02/12 12:33	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		03/28/12 13:34	04/02/12 12:33	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		03/28/12 13:34	04/02/12 12:33	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		03/28/12 13:34	04/02/12 12:33	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		03/28/12 13:34	04/02/12 12:33	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		03/28/12 13:34	04/02/12 12:33	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		03/28/12 13:34	04/02/12 12:33	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		03/28/12 13:34	04/02/12 12:33	1
Pyridine	ND		0.025	0.00041	mg/L		03/28/12 13:34	04/02/12 12:33	1

# QC Sample Results

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LB 480-56920/1-D LB

Matrix: Solid

Analysis Batch: 57723

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 57119

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		03/28/12 13:34	04/02/12 12:33	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		03/28/12 13:34	04/02/12 12:33	1
4-Methylphenol	ND		0.010	0.00036	mg/L		03/28/12 13:34	04/02/12 12:33	1
3-Methylphenol	ND		0.010	0.00040	mg/L		03/28/12 13:34	04/02/12 12:33	1

Surrogate	LB %Recovery	LB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	124		52 - 132	03/28/12 13:34	04/02/12 12:33	1
2-Fluorobiphenyl	101		48 - 120	03/28/12 13:34	04/02/12 12:33	1
2-Fluorophenol	48		20 - 120	03/28/12 13:34	04/02/12 12:33	1
Nitrobenzene-d5	82		46 - 120	03/28/12 13:34	04/02/12 12:33	1
p-Terphenyl-d14	135		67 - 150	03/28/12 13:34	04/02/12 12:33	1
Phenol-d5	34		16 - 120	03/28/12 13:34	04/02/12 12:33	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 480-56893/1-A

Matrix: Solid

Analysis Batch: 56915

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 56893

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		200	39	ug/Kg		03/27/12 11:17	03/27/12 19:08	1
PCB-1221	ND		200	39	ug/Kg		03/27/12 11:17	03/27/12 19:08	1
PCB-1232	ND		200	39	ug/Kg		03/27/12 11:17	03/27/12 19:08	1
PCB-1242	ND		200	44	ug/Kg		03/27/12 11:17	03/27/12 19:08	1
PCB-1248	ND		200	40	ug/Kg		03/27/12 11:17	03/27/12 19:08	1
PCB-1254	ND		200	43	ug/Kg		03/27/12 11:17	03/27/12 19:08	1
PCB-1260	ND		200	94	ug/Kg		03/27/12 11:17	03/27/12 19:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	128		36 - 182	03/27/12 11:17	03/27/12 19:08	1
DCB Decachlorobiphenyl	127		36 - 182	03/27/12 11:17	03/27/12 19:08	1
Tetrachloro-m-xylene	133		24 - 172	03/27/12 11:17	03/27/12 19:08	1
Tetrachloro-m-xylene	119		24 - 172	03/27/12 11:17	03/27/12 19:08	1

Lab Sample ID: LCS 480-56893/2-A

Matrix: Solid

Analysis Batch: 56915

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 56893

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	2150	2460		ug/Kg		115	51 - 185
PCB-1260	2150	2680		ug/Kg		125	61 - 184

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	145		36 - 182
DCB Decachlorobiphenyl	140		36 - 182
Tetrachloro-m-xylene	161		24 - 172
Tetrachloro-m-xylene	132		24 - 172

# QC Sample Results

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCSD 480-56893/3-A

Matrix: Solid

Analysis Batch: 56915

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 56893

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	2150	2510		ug/Kg		117	51 - 185	2	50
PCB-1260	2150	2640		ug/Kg		123	61 - 184	2	50

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCB Decachlorobiphenyl	141		36 - 182
DCB Decachlorobiphenyl	134		36 - 182
Tetrachloro-m-xylene	157		24 - 172
Tetrachloro-m-xylene	133		24 - 172

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 480-57043/2-A

Matrix: Solid

Analysis Batch: 57209

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 57043

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		03/28/12 10:10	03/28/12 19:11	1
Barium	ND		0.0020	0.00070	mg/L		03/28/12 10:10	03/28/12 19:11	1
Cadmium	ND		0.0010	0.00050	mg/L		03/28/12 10:10	03/28/12 19:11	1
Chromium	ND		0.0040	0.0010	mg/L		03/28/12 10:10	03/28/12 19:11	1
Lead	ND		0.0050	0.0030	mg/L		03/28/12 10:10	03/28/12 19:11	1
Selenium	ND		0.015	0.0087	mg/L		03/28/12 10:10	03/28/12 19:11	1
Silver	ND		0.0030	0.0017	mg/L		03/28/12 10:10	03/28/12 19:11	1

Lab Sample ID: LCS 480-57043/3-A

Matrix: Solid

Analysis Batch: 57209

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 57043

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.200	0.226		mg/L		113	80 - 120
Barium	0.200	0.215		mg/L		107	80 - 120
Cadmium	0.200	0.203		mg/L		102	80 - 120
Chromium	0.200	0.199		mg/L		99	80 - 120
Lead	0.200	0.217		mg/L		108	80 - 120
Selenium	0.200	0.221		mg/L		110	80 - 120
Silver	0.0500	0.0522		mg/L		104	80 - 120

Lab Sample ID: LB 480-56920/1-B LB

Matrix: Solid

Analysis Batch: 57209

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 57043

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		03/28/12 10:10	03/28/12 19:05	1
Barium	0.0182		0.0020	0.00070	mg/L		03/28/12 10:10	03/28/12 19:05	1
Cadmium	ND		0.0010	0.00050	mg/L		03/28/12 10:10	03/28/12 19:05	1
Chromium	0.00330	J	0.0040	0.0010	mg/L		03/28/12 10:10	03/28/12 19:05	1
Lead	ND		0.0050	0.0030	mg/L		03/28/12 10:10	03/28/12 19:05	1
Selenium	ND		0.015	0.0087	mg/L		03/28/12 10:10	03/28/12 19:05	1
Silver	ND		0.0030	0.0017	mg/L		03/28/12 10:10	03/28/12 19:05	1

# QC Sample Results

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-57051/2-A

Matrix: Solid

Analysis Batch: 57107

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 57051

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		03/28/12 10:05	03/28/12 12:40	1

Lab Sample ID: LCS 480-57051/3-A

Matrix: Solid

Analysis Batch: 57107

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 57051

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00668	0.00622		mg/L		93	80 - 120

Lab Sample ID: LB 480-56920/1-C LB

Matrix: Solid

Analysis Batch: 57107

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 57051

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		03/28/12 10:05	03/28/12 12:39	1

## Method: 1010 - Ignitability, Pensky-Martens Closed-Cup Method

Lab Sample ID: LCS 480-57354/1

Matrix: Solid

Analysis Batch: 57354

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Flashpoint	81.0	80.00		Degrees F		99	97.5 - 102.5

## Method: 9012 - Cyanide, Reactive

Lab Sample ID: MB 480-57546/1-A

Matrix: Solid

Analysis Batch: 57571

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 57546

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Reactive	ND		10.0	0.0030	mg/Kg		03/30/12 12:30	03/30/12 17:16	1

Lab Sample ID: LCS 480-57546/2-A

Matrix: Solid

Analysis Batch: 57571

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 57546

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Reactive	1000	443.8		mg/Kg		44	10 - 100

## Method: 9034 - Sulfide, Reactive

Lab Sample ID: MB 480-57547/1-A

Matrix: Solid

Analysis Batch: 57548

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 57547

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Reactive	ND		10.0	0.57	mg/Kg		03/30/12 12:30	03/30/12 14:30	1

## QC Sample Results

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

### Method: 9034 - Sulfide, Reactive (Continued)

Lab Sample ID: LCS 480-57547/2-A

Matrix: Solid

Analysis Batch: 57548

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 57547

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide, Reactive	1000	440.8		mg/Kg		44	10 - 100

### Method: 9045C - pH

Lab Sample ID: LCS 480-56979/1

Matrix: Solid

Analysis Batch: 56979

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	6.960		SU		99	99 - 101



# QC Association Summary

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

## GC/MS VOA

### Leach Batch: 56922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-17678-1	WC 032312S	TCLP	Solid	1311	
LB 480-56922/1-A LB	Method Blank	TCLP	Solid	1311	

### Analysis Batch: 57165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-17678-1	WC 032312S	TCLP	Solid	8260B	
LB 480-56922/1-A LB	Method Blank	TCLP	Solid	8260B	
LCS 480-57165/5	Lab Control Sample	Total/NA	Solid	8260B	
MB 480-57165/6	Method Blank	Total/NA	Solid	8260B	

## GC/MS Semi VOA

### Prep Batch: 56759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-17679-1	SB-2-0-1	Total/NA	Solid	3550B	
480-17679-2	SB-2-1-2	Total/NA	Solid	3550B	
480-17679-3	SB-2-2-4	Total/NA	Solid	3550B	
480-17679-3 MS	SB-2-2-4	Total/NA	Solid	3550B	
480-17679-3 MSD	SB-2-2-4	Total/NA	Solid	3550B	
480-17679-4	SB-1-0-1	Total/NA	Solid	3550B	
480-17679-5	SB-1-1-2	Total/NA	Solid	3550B	
480-17679-6	SB-1-2-4	Total/NA	Solid	3550B	
480-17679-7	BD032312	Total/NA	Solid	3550B	
LCS 480-56759/2-A	Lab Control Sample	Total/NA	Solid	3550B	
MB 480-56759/1-A	Method Blank	Total/NA	Solid	3550B	

### Leach Batch: 56920

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-17678-1	WC 032312S	TCLP	Solid	1311	
LB 480-56920/1-D LB	Method Blank	TCLP	Solid	1311	

### Analysis Batch: 57034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-17679-1	SB-2-0-1	Total/NA	Solid	8270C	56759
480-17679-2	SB-2-1-2	Total/NA	Solid	8270C	56759
480-17679-3	SB-2-2-4	Total/NA	Solid	8270C	56759
480-17679-3 MS	SB-2-2-4	Total/NA	Solid	8270C	56759
480-17679-3 MSD	SB-2-2-4	Total/NA	Solid	8270C	56759
480-17679-4	SB-1-0-1	Total/NA	Solid	8270C	56759
480-17679-5	SB-1-1-2	Total/NA	Solid	8270C	56759
480-17679-6	SB-1-2-4	Total/NA	Solid	8270C	56759
480-17679-7	BD032312	Total/NA	Solid	8270C	56759
LCS 480-56759/2-A	Lab Control Sample	Total/NA	Solid	8270C	56759
MB 480-56759/1-A	Method Blank	Total/NA	Solid	8270C	56759

### Prep Batch: 57119

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-17678-1	WC 032312S	TCLP	Solid	3510C	56920
LB 480-56920/1-D LB	Method Blank	TCLP	Solid	3510C	56920
LCS 480-57119/2-A	Lab Control Sample	Total/NA	Solid	3510C	
LCSD 480-57119/3-A	Lab Control Sample Dup	Total/NA	Solid	3510C	
MB 480-57119/1-A	Method Blank	Total/NA	Solid	3510C	

# QC Association Summary

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

## GC/MS Semi VOA (Continued)

### Analysis Batch: 57300

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-17678-1	WC 032312S	TCLP	Solid	8270C	57119
LCSD 480-57119/3-A	Lab Control Sample Dup	Total/NA	Solid	8270C	57119
MB 480-57119/1-A	Method Blank	Total/NA	Solid	8270C	57119

### Analysis Batch: 57723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 480-56920/1-D LB	Method Blank	TCLP	Solid	8270C	57119
LCS 480-57119/2-A	Lab Control Sample	Total/NA	Solid	8270C	57119

## GC Semi VOA

### Prep Batch: 56893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-17678-1	WC 032312S	Total/NA	Solid	3550B	
LCS 480-56893/2-A	Lab Control Sample	Total/NA	Solid	3550B	
LCSD 480-56893/3-A	Lab Control Sample Dup	Total/NA	Solid	3550B	
MB 480-56893/1-A	Method Blank	Total/NA	Solid	3550B	

### Analysis Batch: 56915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-17678-1	WC 032312S	Total/NA	Solid	8082	56893
LCS 480-56893/2-A	Lab Control Sample	Total/NA	Solid	8082	56893
LCSD 480-56893/3-A	Lab Control Sample Dup	Total/NA	Solid	8082	56893
MB 480-56893/1-A	Method Blank	Total/NA	Solid	8082	56893

## Metals

### Leach Batch: 56920

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-17678-1	WC 032312S	TCLP	Solid	1311	
LB 480-56920/1-B LB	Method Blank	TCLP	Solid	1311	
LB 480-56920/1-C LB	Method Blank	TCLP	Solid	1311	

### Prep Batch: 57043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-17678-1	WC 032312S	TCLP	Solid	3010A	56920
LB 480-56920/1-B LB	Method Blank	TCLP	Solid	3010A	56920
LCS 480-57043/3-A	Lab Control Sample	Total/NA	Solid	3010A	
MB 480-57043/2-A	Method Blank	Total/NA	Solid	3010A	

### Prep Batch: 57051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-17678-1	WC 032312S	TCLP	Solid	7470A	56920
LB 480-56920/1-C LB	Method Blank	TCLP	Solid	7470A	56920
LCS 480-57051/3-A	Lab Control Sample	Total/NA	Solid	7470A	
MB 480-57051/2-A	Method Blank	Total/NA	Solid	7470A	

### Analysis Batch: 57107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-17678-1	WC 032312S	TCLP	Solid	7470A	57051
LB 480-56920/1-C LB	Method Blank	TCLP	Solid	7470A	57051
LCS 480-57051/3-A	Lab Control Sample	Total/NA	Solid	7470A	57051

# QC Association Summary

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

## Metals (Continued)

### Analysis Batch: 57107 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-57051/2-A	Method Blank	Total/NA	Solid	7470A	57051

### Analysis Batch: 57209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-17678-1	WC 032312S	TCLP	Solid	6010B	57043
LB 480-56920/1-B LB	Method Blank	TCLP	Solid	6010B	57043
LCS 480-57043/3-A	Lab Control Sample	Total/NA	Solid	6010B	57043
MB 480-57043/2-A	Method Blank	Total/NA	Solid	6010B	57043

## General Chemistry

### Analysis Batch: 56874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-17678-1	WC 032312S	Total/NA	Solid	Moisture	
480-17679-1	SB-2-0-1	Total/NA	Solid	Moisture	
480-17679-2	SB-2-1-2	Total/NA	Solid	Moisture	
480-17679-3	SB-2-2-4	Total/NA	Solid	Moisture	
480-17679-3 MS	SB-2-2-4	Total/NA	Solid	Moisture	
480-17679-3 MSD	SB-2-2-4	Total/NA	Solid	Moisture	
480-17679-4	SB-1-0-1	Total/NA	Solid	Moisture	
480-17679-5	SB-1-1-2	Total/NA	Solid	Moisture	
480-17679-6	SB-1-2-4	Total/NA	Solid	Moisture	
480-17679-7	BD032312	Total/NA	Solid	Moisture	

### Analysis Batch: 56979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-17678-1	WC 032312S	Total/NA	Solid	9045C	
LCS 480-56979/1	Lab Control Sample	Total/NA	Solid	9045C	

### Analysis Batch: 57354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-17678-1	WC 032312S	Total/NA	Solid	1010	
LCS 480-57354/1	Lab Control Sample	Total/NA	Solid	1010	

### Prep Batch: 57546

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-17678-1	WC 032312S	Total/NA	Solid	7.3.3	
LCS 480-57546/2-A	Lab Control Sample	Total/NA	Solid	7.3.3	
MB 480-57546/1-A	Method Blank	Total/NA	Solid	7.3.3	

### Prep Batch: 57547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-17678-1	WC 032312S	Total/NA	Solid	7.3.4	
LCS 480-57547/2-A	Lab Control Sample	Total/NA	Solid	7.3.4	
MB 480-57547/1-A	Method Blank	Total/NA	Solid	7.3.4	

### Analysis Batch: 57548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-17678-1	WC 032312S	Total/NA	Solid	9034	57547
LCS 480-57547/2-A	Lab Control Sample	Total/NA	Solid	9034	57547
MB 480-57547/1-A	Method Blank	Total/NA	Solid	9034	57547

## QC Association Summary

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

### General Chemistry (Continued)

#### Analysis Batch: 57571

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-17678-1	WC 032312S	Total/NA	Solid	9012	57546
LCS 480-57546/2-A	Lab Control Sample	Total/NA	Solid	9012	57546
MB 480-57546/1-A	Method Blank	Total/NA	Solid	9012	57546

# Lab Chronicle

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

**Client Sample ID: WC 032312S**

**Date Collected: 03/23/12 13:00**

**Date Received: 03/24/12 09:00**

**Lab Sample ID: 480-17678-1**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			56922	03/27/12 14:15	MRB	TAL BUF
TCLP	Analysis	8260B		10	57165	03/28/12 21:03	JMB	TAL BUF
TCLP	Leach	1311			56920	03/27/12 14:11	MRB	TAL BUF
TCLP	Prep	3510C			57119	03/28/12 13:34	KB	TAL BUF
TCLP	Analysis	8270C		1	57300	03/29/12 16:38	HTL	TAL BUF
Total/NA	Prep	3550B			56893	03/27/12 11:17	KV	TAL BUF
Total/NA	Analysis	8082		1	56915	03/27/12 20:13	JM	TAL BUF
TCLP	Leach	1311			56920	03/27/12 14:11	MRB	TAL BUF
TCLP	Prep	7470A			57051	03/28/12 10:05	JM	TAL BUF
TCLP	Analysis	7470A		1	57107	03/28/12 12:54	JRK	TAL BUF
TCLP	Prep	3010A			57043	03/28/12 10:10	SS	TAL BUF
TCLP	Analysis	6010B		1	57209	03/28/12 19:44	LH	TAL BUF
Total/NA	Analysis	Moisture		1	56874	03/27/12 10:39	ZLR	TAL BUF
Total/NA	Analysis	9045C		1	56979	03/27/12 18:35	EGN	TAL BUF
Total/NA	Analysis	1010		1	57354	03/29/12 11:26	KS	TAL BUF
Total/NA	Prep	7.3.4			57547	03/30/12 12:30	JR	TAL BUF
Total/NA	Analysis	9034		1	57548	03/30/12 14:30	JR	TAL BUF
Total/NA	Prep	7.3.3			57546	03/30/12 12:30	JR	TAL BUF
Total/NA	Analysis	9012		1	57571	03/30/12 17:16	JR	TAL BUF

**Client Sample ID: SB-2-0-1**

**Date Collected: 03/23/12 13:20**

**Date Received: 03/24/12 09:00**

**Lab Sample ID: 480-17679-1**

**Matrix: Solid**

**Percent Solids: 79.1**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			56759	03/26/12 14:53	DE	TAL BUF
Total/NA	Analysis	8270C		1	57034	03/28/12 13:34	HTL	TAL BUF
Total/NA	Analysis	Moisture		1	56874	03/27/12 10:39	ZLR	TAL BUF

**Client Sample ID: SB-2-1-2**

**Date Collected: 03/23/12 13:50**

**Date Received: 03/24/12 09:00**

**Lab Sample ID: 480-17679-2**

**Matrix: Solid**

**Percent Solids: 75.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			56759	03/26/12 14:53	DE	TAL BUF
Total/NA	Analysis	8270C		1	57034	03/28/12 13:59	HTL	TAL BUF
Total/NA	Analysis	Moisture		1	56874	03/27/12 10:39	ZLR	TAL BUF

**Client Sample ID: SB-2-2-4**

**Date Collected: 03/23/12 08:50**

**Date Received: 03/24/12 09:00**

**Lab Sample ID: 480-17679-3**

**Matrix: Solid**

**Percent Solids: 77.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			56759	03/26/12 14:53	DE	TAL BUF

# Lab Chronicle

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

**Client Sample ID: SB-2-2-4**

**Lab Sample ID: 480-17679-3**

**Date Collected: 03/23/12 08:50**

**Matrix: Solid**

**Date Received: 03/24/12 09:00**

**Percent Solids: 77.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8270C		1	57034	03/28/12 14:23	HTL	TAL BUF
Total/NA	Analysis	Moisture		1	56874	03/27/12 10:39	ZLR	TAL BUF

**Client Sample ID: SB-1-0-1**

**Lab Sample ID: 480-17679-4**

**Date Collected: 03/23/12 10:00**

**Matrix: Solid**

**Date Received: 03/24/12 09:00**

**Percent Solids: 79.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			56759	03/26/12 14:53	DE	TAL BUF
Total/NA	Analysis	8270C		1	57034	03/28/12 14:47	HTL	TAL BUF
Total/NA	Analysis	Moisture		1	56874	03/27/12 10:39	ZLR	TAL BUF

**Client Sample ID: SB-1-1-2**

**Lab Sample ID: 480-17679-5**

**Date Collected: 03/23/12 10:10**

**Matrix: Solid**

**Date Received: 03/24/12 09:00**

**Percent Solids: 81.1**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			56759	03/26/12 14:53	DE	TAL BUF
Total/NA	Analysis	8270C		1	57034	03/28/12 15:12	HTL	TAL BUF
Total/NA	Analysis	Moisture		1	56874	03/27/12 10:39	ZLR	TAL BUF

**Client Sample ID: SB-1-2-4**

**Lab Sample ID: 480-17679-6**

**Date Collected: 03/23/12 10:38**

**Matrix: Solid**

**Date Received: 03/24/12 09:00**

**Percent Solids: 78.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			56759	03/26/12 14:53	DE	TAL BUF
Total/NA	Analysis	8270C		1	57034	03/28/12 15:36	HTL	TAL BUF
Total/NA	Analysis	Moisture		1	56874	03/27/12 10:39	ZLR	TAL BUF

**Client Sample ID: BD032312**

**Lab Sample ID: 480-17679-7**

**Date Collected: 03/23/12 12:30**

**Matrix: Solid**

**Date Received: 03/24/12 09:00**

**Percent Solids: 80.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			56759	03/26/12 14:53	DE	TAL BUF
Total/NA	Analysis	8270C		1	57034	03/28/12 16:00	HTL	TAL BUF
Total/NA	Analysis	Moisture		1	56874	03/27/12 10:39	ZLR	TAL BUF

## Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

## Certification Summary

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Buffalo	Arkansas DEQ	State Program	6	88-0686
TestAmerica Buffalo	California	NELAC	9	1169CA
TestAmerica Buffalo	Connecticut	State Program	1	PH-0568
TestAmerica Buffalo	Florida	NELAC	4	E87672
TestAmerica Buffalo	Georgia	State Program	4	956
TestAmerica Buffalo	Georgia	State Program	4	N/A
TestAmerica Buffalo	Illinois	NELAC	5	100325 / 200003
TestAmerica Buffalo	Iowa	State Program	7	374
TestAmerica Buffalo	Kansas	NELAC	7	E-10187
TestAmerica Buffalo	Kentucky	State Program	4	90029
TestAmerica Buffalo	Kentucky (UST)	State Program	4	30
TestAmerica Buffalo	Louisiana	NELAC	6	02031
TestAmerica Buffalo	Maine	State Program	1	NY0044
TestAmerica Buffalo	Maryland	State Program	3	294
TestAmerica Buffalo	Massachusetts	State Program	1	M-NY044
TestAmerica Buffalo	Michigan	State Program	5	9937
TestAmerica Buffalo	Minnesota	NELAC	5	036-999-337
TestAmerica Buffalo	New Hampshire	NELAC	1	2337
TestAmerica Buffalo	New Hampshire	NELAC	1	68-00281
TestAmerica Buffalo	New Jersey	NELAC	2	NY455
TestAmerica Buffalo	New York	NELAC	2	10026
TestAmerica Buffalo	North Dakota	State Program	8	R-176
TestAmerica Buffalo	Oklahoma	State Program	6	9421
TestAmerica Buffalo	Oregon	NELAC	10	NY200003
TestAmerica Buffalo	Pennsylvania	NELAC	3	68-00281
TestAmerica Buffalo	Tennessee	State Program	4	TN02970
TestAmerica Buffalo	Texas	NELAC	6	T104704412-08-TX
TestAmerica Buffalo	USDA	Federal		P330-08-00242
TestAmerica Buffalo	Virginia	NELAC Secondary AB	3	460185
TestAmerica Buffalo	Virginia	State Program	3	278
TestAmerica Buffalo	Washington	State Program	10	C1677
TestAmerica Buffalo	West Virginia DEP	State Program	3	252
TestAmerica Buffalo	Wisconsin	State Program	5	998310390

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

## Method Summary

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL BUF
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL BUF
6010B	Metals (ICP)	SW846	TAL BUF
7470A	Mercury (CVAA)	SW846	TAL BUF
1010	Ignitability, Pensky-Martens Closed-Cup Method	SW846	TAL BUF
9012	Cyanide, Reactive	SW846	TAL BUF
9034	Sulfide, Reactive	SW846	TAL BUF
9045C	pH	SW846	TAL BUF
Moisture	Percent Moisture	EPA	TAL BUF

### Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600



## Sample Summary

Client: ARCADIS U.S. Inc  
Project/Site: GE Rio Piedras

TestAmerica Job ID: 480-17678-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-17678-1	WC 032312S	Solid	03/23/12 13:00	03/24/12 09:00
480-17679-1	SB-2-0-1	Solid	03/23/12 13:20	03/24/12 09:00
480-17679-2	SB-2-1-2	Solid	03/23/12 13:50	03/24/12 09:00
480-17679-3	SB-2-2-4	Solid	03/23/12 08:50	03/24/12 09:00
480-17679-4	SB-1-0-1	Solid	03/23/12 10:00	03/24/12 09:00
480-17679-5	SB-1-1-2	Solid	03/23/12 10:10	03/24/12 09:00
480-17679-6	SB-1-2-4	Solid	03/23/12 10:38	03/24/12 09:00
480-17679-7	BD032312	Solid	03/23/12 12:30	03/24/12 09:00



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Temperature on Receipt \_\_\_\_\_  
Drinking Water? Yes ☐ No ☒

## Chain of Custody Record

TAL-4124 (1007)

Client		General Electric		Project Manager		Jason Brien		Date		3/23/12		Chain of Custody Number		211951	
Address		Calle las Brisas #5		Telephone Number (Area Code)/Fax Number		315 671 9114		Lab Number				Page		1 of 2	
City		Rio Piedras		State		PR		Zip Code		00924		Site Contact		Roman Biber	
Project Name and Location (State)		GE Rio Piedras		Carrier/Maybill Number		874583225286		Lab Contact				Analysis (Attach list if more space is needed)			
Contract/Purchase Order/Quote No.				Matrix		Containers & Preservatives						Special Instructions/ Conditions of Receipt			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air	Soil	Sed	Unpres	H2SO4	HNO3	HCl	NaOH	ZnAc	NaOH
SB-2-0-1	3/22/12	1320		✓		✓						
SB-2-1-2	3/22/12	1350		✓		✓						
SB-2-2-4	3/23/12	850		✓		✓						
SB-2-4-6	3/23/12	930		✓		✓						
SB-1-0-1	3/23/12	1000		✓		✓						
SB-1-1-2	3/23/12	1010		✓		✓						
SB-1-2-4	3/23/12	1038		✓		✓						
SB-1-4-6	3/23/12	1140		✓		✓						
SB-2 HS/H4D	3/23/12	1200		✓		✓						
BD03231Z	3/23/12	1230		✓		✓						

Possible Hazard Identification  
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown  
 Turn Around Time Required  
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other  
 Sample Disposal  
☐ Return To Client ☐ Disposal By Lab ☐ Archive For \_\_\_\_\_ Months  
 (A fee may be assessed if samples are retained longer than 1 month)

1. Relinquished By		Date		Time	
2. Relinquished By		Date		Time	
3. Relinquished By		Date		Time	

Comments  
 3.1 82

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

## Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 480-17678-1

**Login Number: 17678**

**List Source: TestAmerica Buffalo**

**List Number: 1**

**Creator: Janish, Carl**

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	False	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

## Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 480-17678-1

**Login Number: 17679**

**List Source: TestAmerica Buffalo**

**List Number: 1**

**Creator: Janish, Carl**

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	False	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	